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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): 5646-118

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Signature: Candi L. Riggs

Typed or printed name: Candi L. Riggs

Application Number	Filed
10/714,680	11/14/03

First Named Inventor: John R. Mick, Jr.

Art Unit	Examiner
2186	Paul W. Schlie

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☒ attorney or agent of record. Registration number 36,925
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

Signature

Grant J. Scott
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Telephone number

July 5, 2006
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

RESPONSE UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2186

Attorney Docket No.: 5646-118

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: John R. Mick, Jr.
Serial No.: 10/714,680
Filed: November 14, 2003
For: CAM-BASED SEARCH ENGINES HAVING PER ENTRY AGE RPORTING CAPABILITY

Group Art Unit: 2186
Examiner: Paul W. Schlie
Confirmation No.: 2326

Date: July 5, 2006

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REASONS IN SUPPORT OF APPLICANTS' PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

This document is being submitted in support of the Pre-Appeal Brief Request for Review filed concurrently with a Notice of Appeal in compliance with 37 CFR 41.31 and with the rules set out in the Official Gazette of July 12, 2005 for the New Pre-Appeal Brief Conference Pilot Program.

No fee or extension of time is believed due for this request. However, if any further fee or extension of time for this request is required, then Applicants request this document also be considered as a petition therefor. The Commissioner is hereby authorized to charge any additional fee that may be required to Deposit Account No. 50-0220.

REMARKS

Applicants hereby request a Pre-Appeal Brief Review (hereinafter "Request") for the claims finally rejected in the Final Official Action, mailed April 6, 2006 (hereinafter "Final Action"). This Request is provided herewith in accordance with the rules set forth in the Official Gazette of July 12, 2005.

Claims 7-8 and 14-17 are pending in the present application and stand rejected under 35 UCS 103(a), based on Applicants' admitted prior art (see, e.g., FIGS. 1 and 2A-2B) in combination with U.S. Patent No. 6,424,659 to Viswanadham et al. (See, e.g., Final Action, pp. 3-4). In particular, the Final Action maintains that Viswanadham "teaches that aged associated database entry status may be explicitly reported [from a CAM-based integrated

search engine device] to a supervising host upon a periodic request from the [supervising host]." (See, e.g., Final Action, p. 3, last line - p. 4, line 2). Applicants disagree that these alleged disclosures of Viswanadham are material to the recited subject matter of the pending claims, and respectfully request review of the present application by an appeal conference prior to the filing of an appeal brief. In the interest of brevity, and without waiving the right to argue additional grounds should this request be denied, Applicants limit their discussion herein to one important error of fact in the application of Viswanadham to the pending claims. This error of fact renders all outstanding rejections improper under the patent laws.

The invention defined by the pending independent Claims 7 and 14 overcomes at least one significant performance drawback associated with the conventional timing of periodic aging requests made by a supervising host integrated circuit (IC) to a search engine device containing CAM-entries subject to aging (i.e., CAM-entries subject to deletion upon reaching a predetermined "age"). In the prior art, such as Viswanadham, the timing of the periodic aging requests that are issued (e.g., as instructions) by a supervising host IC to a search engine device is typically controlled by an internal timer or similar apparatus within the supervising host IC. (See, Viswanadham, Col. 19, lines 4-8). For example, an internal timer within the supervising host IC may keep a count of a number of clock cycles as a basis to measure how frequently to issue aging requests to a search engine device. Alternatively, an internal timer may keep a "search" count of the number of search instructions issued by the supervising host IC to the search engine device and then issue an aging request (and reset the search count) only after some threshold number has been exceeded.

But, regardless of how the "internal timing" is measured within the supervising host IC, Viswanadham provides absolutely no disclosure or suggestion of any technique to vary the frequency at which aging requests are issued from the supervising host IC to thereby account for higher or lower rates of internal aging within the search engine device, which may occur in response to varying search conditions and changes in the search key databases within the CAM core of the search engine device. Accordingly, by basing aging requests on internal timing within the supervising host IC, Viswanadham may generate too frequent aging requests, which can lower overall search bandwidth and search engine performance, or too infrequent aging requests which may cause the CAM core to remain populated with too many unnecessary (e.g., "old") search keys that should have otherwise been deleted.

To address this problem of basing all aging requests on a timer within a supervising host, as described by Viswanadham, the claimed invention adopts a dynamic approach using a storage device (e.g., FIFO memory device) within the search engine device. This storage device contains addresses of entries to be aged out of databases within the CAM core of the search engine device. In particular, an interrupt is automatically generated from the search

engine device to a supervising host IC whenever the storage device is filled with a threshold number of addresses. The rate at which this storage device is filled will naturally vary with user application, search key sequence, database allocation, etc. Then, in response to this interrupt, the supervising host IC may issue an aging request, which results in a reading of the addresses within the storage device and a deletion of "old" entries within the CAM core. This generation of an interrupt by the search engine device, which only occurs when a sufficient number of "aged" entries are to be deleted, eliminates the possibility that the supervising host IC will generate too many or too few aging requests as aging conditions vary within the search engine device.

These above-highlighted aspects of the invention are recited by the independent Claims 7 and 14, which both recite a search engine device comprising a storage device (e.g., FIFO memory device) and a control circuit configured to generate an interrupt (e.g., in response to detecting a sufficiently full storage device). Claim 7 further includes recitations relating to a level count register and a level configuration register that support the generation of the interrupt by the search engine device. Applicants submit that this control of the generation of an interrupt by the search engine device is not equivalent to a periodic timer-based request generated by a supervisory host, as argued by the Examiner. (See, Final Action, p. 4, lines 1-2).

Based on these remarks, Applicants respectfully submit that there is at least one clear error of fact in the interpretation of Viswanadham, as set forth in the Final Action. Because of this error, Applicants request that the outstanding rejections of the pending claims be reverse by the appeal conference prior to the filing of an appeal brief.

Respectfully submitted,

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CERTIFICATION OF FACSIMILE TRANSMISSION UNDER 37 CFR § 1.8

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Candi L. Riggs

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